

CLAIMS

1. Process for preparing a lithographic mask, comprising:

- 5 - a stage for making patterns (10) on a plane mask (12), that has an SOI structure, comprising a layer of semiconductor material, a buried layer (34) of insulant and a substrate (36),
- a stage for transferring the patterns to a support (16) that has a non-nil curvature on at least one point of its surface.
- 10

2. Process according to claim 1, the patterns being made by electron beam lithography (4).

15

3. Process according to claim 1 or 2, additionally comprising a stage for thinning the substrate (36) of the SOI structure.

20 4. Process according to one of claims 1 to 3, the transfer stage comprising previously a thinning of the plane mask (12), then the installation of a handle substrate (14).

25 5. Process according to one of claims 1 to 4, the curved support (16) being of metal, or glass or plastic material.

30 6. Process according to one of claims 1 to 5, with means allowing a local deformation to be made of the support (16) with the non-nil curvature.

7. Process according to one of claims 1 to 6, the patterns (10) having a maximum dimension of between 50 nm and 10 μ m.

5 8. Lithographic mask comprising a support (16) that has a non-nil curvature on at least one point of its surface, and a substrate (12), of Silicon or silica or nitride, comprising a plurality of patterns (10) and applied against this surface.

10

9. Mask according to claim 8, the support being of metal or glass or plastic material.

10. Mask according to one of claims 8 or 9,
15 additionally comprising means for inducing a local deformation of said support (16).